for the vehicle by a company which guarantees that the exhaust system has a safe exhaust gas exit location.

(b) Notwithstanding (a) above, certification shall not be refused because a muffler has drain holes which were placed in it at the time of manufacture for drainage purposes.

Amended by R.2001 d.20, effective January 16, 2001.
See: 32 N.J.R. 3720(a), 33 N.J.R. 269(a).
In (a)4, substituted "provided" for "providing" preceding "it is specifically manufactured".

13:20-48.5 Prescribed emission test procedures; Class I and II licensees; snap acceleration test

The snap acceleration test shall be conducted in accordance with N.J.A.C. 7:27-14 and 7:27B-4.

13:20-48.6 Prescribed emission test procedures; Class I and II licensees; rolling acceleration test

The rolling acceleration test shall be conducted in accordance with N.J.A.C. 7:27-14 and 7:27B-4.

13:20-48.7 Prescribed emission test procedures; Class I and II licensees; stall acceleration test

The stall acceleration test shall be conducted in accordance with N.J.A.C. 7:27-14 and 7:27B-4.

13:20-48.8 Prescribed emission test procedures; Class I and II licensees; chassis dynamometer test (Reserved)

13:20-48.9 Equipment calibration; Class I and II licensees

The smoke opacimeter shall be calibrated and maintained in accordance with the manufacturer's requirements and the general instructions for all tests adopted by the Department of Environmental Protection at N.J.A.C. 7:27B-4.2.

APPENDIX

AVERAGE LENGTH OF TIME REQUIRED TO REINSPECT A SPECIFIC ITEM ON A HEAVY-DUTY DIESEL TRUCK OR DIESEL BUS

Item Reinspected	Time Required
Credentials	.1 hour†
Emission Control Apparatus	.2 hour
Governor	.2 hour
Exhaust System	.2 hour
Emission Control System	.3 hour
Engine Emissions (Opacity)	.3 hour

Note: If this is the only item to be reinspected on a vehicle, the reinspection time shall be considered to be .2 hour.

SUBCHAPTER 49. STANDARDS FOR SCHOOL BUSES MANUFACTURED JULY 1985 THROUGH MAY 1993

13:20-49.1 Scope and purpose; school bus standards; incorporation by reference

(a) This subchapter shall be applicable to all motor vehicles registered in New Jersey originally designed by the manufacturer to carry 10 or more passengers, excluding the driver, operated by, or under contract with, a public or governmental agency, or religious or other charitable organization or corporation, or privately operated for compensation for the transportation of children to or from school for secular or religious education, school-connected activity, day camp, summer day camp, nursery school, child care center, preschool center or other similar places of education. All such motor vehicles shall be registered as school buses in accordance with N.J.S.A. 39:3-19.2 and shall comply with the rules set forth in this subchapter and all applicable Federal standards. A motor vehicle shall not be used for the purposes set forth in this subsection unless it has been registered as a school bus in accordance with N.J.S.A. 39:3-19.2 and complies with the rules set forth in this subchapter and all applicable Federal standards.

(b) The Motor Vehicle Commission authorizes the use of Standards for School Buses and Operations, National Minimum Standards for School Buses, 1985 Revised Edition, which are issued as recommendations of the Tenth National Conference on School Transportation. These standards are divided into sections covering definitions, chassis standards and body standards. The purpose is to define school buses, minimum chassis and body standards and assign responsibility for providing the defined equipment. The 1985 revised edition of Standards for School Buses and Operations covering definitions and school bus chassis and body standards, is incorporated by reference and hereby adopted as a rule and supplemented by standards established in N.J.A.C. 13:20-49.2, 49.3 and 49.4. These standards apply to vehicles with a chassis manufacture date of July 1985 through May 1993.

1. This document is available for review at the Motor Vehicle Commission, 225 East State Street, PO Box 162, Trenton, New Jersey 08666-0162, or at the Office of Administrative Law, PO Box 049, Trenton, New Jersey 08625-0049.

2. This document may be purchased from the National Safety Council, 444 North Michigan Avenue, Chicago, Illinois 60611.

(c) Each school bus shall be inspected twice each year by the Motor Vehicle Commission's School Bus Inspection Unit to ensure that such vehicle is in safe and proper operating condition. The time and location of the inspections shall be established by the Chief Administrator or his or her designee.

(d) An autobus subject to inspection by the Motor Vehicle Commission's Commercial Bus Inspection and Investigation Unit that is used for the transportation of children to or from school shall display a certificate of inspection issued by the Commission indicating school use. An autobus is exempt from displaying a certificate for school use issued by the Motor Vehicle Commission when being used on a preset franchised route and schedule or chartered for school-connected activities.

(e) A parent or legal guardian under contract with a district board of education to transport only his or her own child or children shall not be required to possess a commercial driver license or to use a motor vehicle registered as a school bus.

(f) All equipment and components required by this subchapter shall be maintained in proper operating condition at all times.

Amended by R.2005 d.24, effective January 18, 2005.
See: 35 N.J.R. 5483(a), 37 N.J.R. 321(a).
Added a new (a); recodified former (a) as (b) and added new (c) through (f).
Amended by R.2006 d.249, effective July 3, 2006.
See: 38 N.J.R. 386(b), 38 N.J.R. 2835(a).
In (b) and (b)1, substituted "Motor Vehicle Commission" for "Division of Motor Vehicles"; in (b), substituted "is" for "are" preceding "incorporated", substituted "in" for "by" preceding "N.J.A.C.", and deleted commas after "July" and "May"; and in (b)1, substituted "08666" for "08625" in (b)1.

13:20-49.2 Chassis standards supplement to the 1985 National Minimum Standards

(a) The parking brake shall hold the vehicle stationary, or to a limit of traction of the braked wheels, on a 20 percent grade under any condition of legal loading and on a surface free from snow, ice and loose material.

(b) When applied, the parking brake shall remain in an applied position with the capability set forth in (a) above, despite exhaustion of the source of energy used for the application or leakage of any kind.

(c) A parking brake lever shall be mounted to the right of the driver on Types C and D buses and in a position that is easily accessible. On Types A and B buses, the parking brake lever may be mounted to the left of the driver.

(d) The parking brake shall be equipped with an on or off warning device.

(e) The hood may be painted National School Bus Yellow low luster yellow or flat black. The wheels may be black, gray, silver or white. The grille shall be chrome or National School Bus Yellow.

(f) An exhaust system shall not exit under any operating window of a bus.

(g) Type A school bus fuel tank(s) shall be according to the manufacturers' standard.

(h) Buses shall be equipped with dual horns of standard make. Each horn shall be capable of producing a complex sound in a band of audio frequencies between approximately 250 and 2,000 cycles per second and each having a total sound level of 110 decibels within these frequency limits. Sound shall be measured at a point on the axis of the horn, three feet from the exit of the horn.

(i) All gauges and instruments must be appropriately identified.

(j) A telltale light, plainly visible to the driver, shall be installed to give a positive indication of the operation of the stop lights.

(k) A transmission shifting control pattern shall be affixed to a point convenient to the driver.

(*l*) There shall be a detent on the automatic transmission shift level to insure that the transmission cannot accidentally move from neutral to a drive gear without driver effort.

(m) School buses not equipped with a park position on the shift control selector for automatic or semi-automatic transmissions shall be equipped with a heavy duty parking brake.

13:20-49.3 Bus body standards supplement to the 1985 National Minimum Standards

(a) Except for Type A vehicles, the minimum clearance of all aisles shall be 12 inches.

(b) When a bus is equipped with air doors or other air operated assemblies, excluding windshield wipers, an additional air tank is needed for the operation of those assemblies.

(c) The emergency door shall be designed to be opened from the inside and outside of the bus and shall be equipped with a fastening device which may be quickly released, but is designed to offer protection against accidental release. Control of the fastening device from the driver's seat shall not be permitted.

(d) The emergency door fastening device shall be equipped with a suitable electric plunger-type switch connected with a buzzer located in the driver's compartment. The switch shall be enclosed in a metal case, and wires leading from the switch shall be concealed in the bus body. The switch shall be installed so that the plunger contacts the farthest edge of the slide bar in such a manner so that any movement of the slide bar will immediately close the circuit on the switch and activate the buzzer.

(e) The emergency door may be equipped with a locking system which incorporates an interlocking electrical circuit that prevents the bus from being started while the emergency door is locked.

(f) The words "Emergency Door" shall be applied to the emergency door, both inside and outside, and shall be in red letters at least two inches high.

(g) The hot water heater system in a Type A vehicle shall be according to the manufacturers' standard.

(h) The owning or operating organization name shall be conspicuously identified in letters at least three inches high, located on each longitudinal side of the exterior of the bus. Such identification shall be completely horizontal and below the window line.

(i) No advertisement of any kind shall be exhibited either on the interior or exterior of the school bus, with the exception that the manufacturer's and vendor's trade name(s) shall be permitted to be exhibited on the bus.

(j) Types A and B buses shall install incandescent signal lamps.

(k) Types C and D buses shall use either the incandescent or strobe lamps.

(*l*) Interior lamps shall be provided which adequately illuminate the aisle and step-well.

(m) All lamps and their installation shall be of a type approved by the Chief Administrator of the Motor Vehicle Commission.

(n) If strobe lamps are utilized, the front and rear signal lamps on each school bus shall be equipped with eight electronic strobe lamps, four red and four amber, working in an automatic integrated system. The warning lamps shall be of a type approved by the Chief Administrator of the Motor Vehicle Commission.

1. Eight Par 46 sealed beam type strobe lamps shall be utilized.

2. The solid-state strobe power supply shall provide the electrical power to energize the sealed beam flash tubes. The power supply shall energize the lamps at a combined alternating flash rate of 120-128 flashes per minute. The power supply shall be fully enclosed in a metal environment container with a minimum metal wall thickness of 0.060 inch.

3. The power supply shall be fully enclosed within the bulkhead.

(*o*) Types B, C and D school buses shall have two exterior convex type mirrors mounted forward, one to the left side and one to the right of the driver. Each mirror shall be a minimum of six by six inches overall, rectangular in shape and shall have a minimum 21 inch to a maximum 30 inch radius of curvature on the convex. Each mirror shall be firmly supported and adjustable to give the driver a clear view of the left rear wheels and the immediate adjacent area, and the right rear wheels and the immediate adjacent area.

1. Type A school buses shall have two exterior clear view rearview mirrors mounted forward, below eye level, one to the left and one to the right of the driver and each mirror shall be firmly supported and adjustable to give the driver a clear view past the left rear and right rear of the vehicle. Outside rearview mirrors, as a minimum, shall be four inches wide by six inches high.

(p) Mirror mounting brackets shall be affixed to the bus so as to be securely fastened to the structural frame members of the bus body, or shall be affixed to the existing exterior rearview mirror mounting brackets.

(q) The convex type mirrors shall not be a part of or attached to the exterior rearview mirrors.

(r) The convex type mirror head and the rearview mirror head shall be mounted so as to have a minimum of two inches distance between the two mirrors.

(s) Cross over mirrors shall have a minimum measurement of six and one-half inches at the base.

(t) The size of the interior mirror on Type A school buses shall be according to manufacturers' standard.

(u) The floor covering in Type A school buses shall be either one-half exterior plywood securely fastened to the floor of the school bus in the passenger compartment, tapered to the forward level, or 14 gauge smooth steel floor.

(v) Rub rails shall be attached at each body post, sedan doors and all other upright structural members.

(w) All seats shall be forward facing.

(x) The tailpipe shall terminate up to a maximum of two inches beyond the rear bumper.

(y) Glass in all side and rear windows shall be of AS-2 or better grade. Equivalent plastic AS-4 or better, may only be used in side windows of the bus.

(z) The windshield shall have a horizontal gradient band starting slightly above the line of a driver's vision and gradually decreasing in light transmission to 20 percent or less at the top of the windshield. Glass in the windshield shall be of AS-1 grade.

(aa) The wheelhousing shall be attached to floor sheets in such a manner to prevent any dust, water, or fumes from entering the body. The wheelhousing shall be constructed of 16-gauge steel.

Amended by R.2006 d.249, effective July 3, 2006.
See: 38 N.J.R. 386(b), 38 N.J.R. 2835(a).
In (m) and (n), substituted "Chief Administrator" for "Director" and "Motor Vehicle Commission" for "Division of Motor Vehicles" throughout.

13:20-49.4 Standards supplement to the 1985 National Minimum Standards for buses used to transport special needs students

(a) If a ramp device is installed, it shall have a non-skid surface and be securely stored and protected from the elements when not in use.

1. The ramp must have at least three feet of length for each foot of incline.

(b) Seat belts or other suitable restraints shall be installed for each passenger including those seated in wheelchairs.

(c) Each door shall be equipped with a device that will actuate a visual or audible signal located in the driver's compartment when the door is not securely closed and the ignition is in the "on" position.

(d) Any aisle leading from a wheelchair position to the emergency or exit door shall be a minimum width of 30 inches.

APPENDIX

SUGGESTED METHOD FOR ESTIMATING GENERATOR OR ALTERNATOR CAPACITY

Constant Load

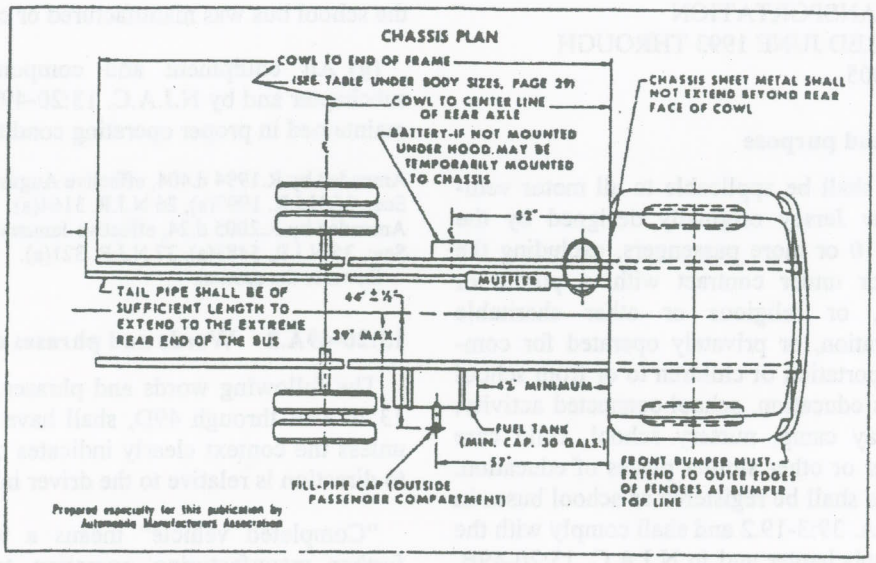
Equipment	Number of Units	Current Draw (Amperes)	
Ignition		2.50	(average)
Head lamps (Type 2 dual lower beam)	2	8.40	
Tail lights	2	1.18	
Clearance lights	4	2.36	
Cluster lights	6	3.54	
Body instrument panel		0.80	
Primary front heater motors	2	24.00	
Primary defroster motor	1	12.00	
Supplementary front heater motor	1	12.00	
Supplementary defroster motor	1	12.00	
Underseat heater motors	2	10.50	
Underseat heater motor	1	8.50	
Defroster fan motor	1	3.50	
Windshield wipers		14.00	
Fuel pump		3.00	
Emergency door buzzer		1.00	

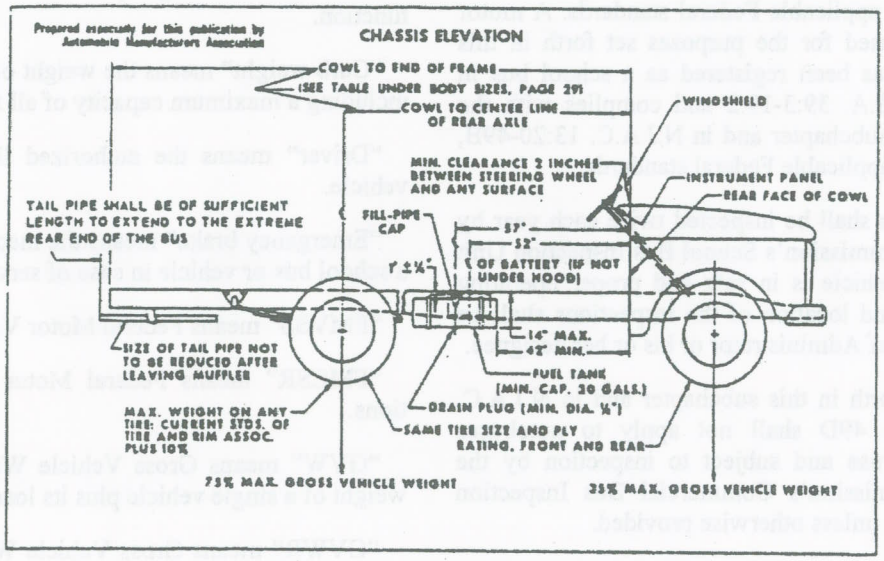
Intermittent Load

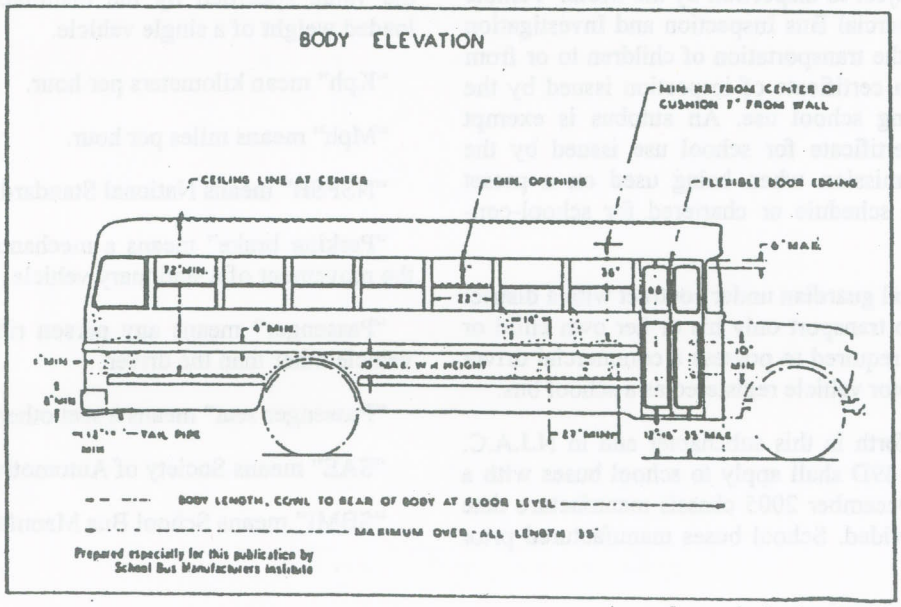
Flasher motor		2.90	
Alternately flashing signal lamps	2	11.60	
Step-well and 6 interior dome lights		5.64	
Individual additional dome lights		0.94	
Stop (brake) lights	4	6.60	
Turn signals	2	2.36	

To determine the electrical load (in amperes) for a typical school bus, the following formula is recommended:

Constant Load + 35% of intermittent load 3/4 total load


CHASSIS PLAN
COWL TO END OF FRAME
(SEE TABLE UNDER BODY SIZES, PAGE 291
COWL TO CENTER LINE OF REAR AXLE
BATTERY-IF NOT MOUNTED UNDER HOOD, MAY BE TEMPORARILY MOUNTED TO CHASSIS
CHASSIS SHEET METAL SHALL NOT EXTEND BEYOND REAR FACE OF COWL
52"
MUFFLER
TAIL PIPE SHALL BE OF SUFFICIENT LENGTH TO EXTEND TO THE EXTREME REAR END OF THE BUS
46" ± ½"
39" MAX.
42" MINIMUM
FUEL TANK (MIN. CAP. 30 GALS.)
57"
FILL-PIPE CAP (OUTSIDE PASSENGER COMPARTMENT)
FRONT BUMPER MUST EXTEND TO OUTER EDGES OF FENDERS AT BUMPER TOP LINE
Prepared especially for this publication by Automobile Manufacturers Association


Prepared especially for this publication by Automobile Manufacturers Association
CHASSIS ELEVATION
COWL TO END OF FRAME
(SEE TABLE UNDER BODY SIZES, PAGE 291
COWL TO CENTER LINE OF REAR AXLE
WINDSHIELD
MIN. CLEARANCE 2 INCHES BETWEEN STEERING WHEEL AND ANY SURFACE
INSTRUMENT PANEL
REAR FACE OF COWL
TAIL PIPE SHALL BE OF SUFFICIENT LENGTH TO EXTEND TO THE EXTREME REAR END OF THE BUS
FILL-PIPE CAP
57"
52"
OF BATTERY (IF NOT UNDER HOOD)
9" ± ¼"
14" MAX.
42" MIN.
FUEL TANK (MIN. CAP. 30 GALS.)
SIZE OF TAIL PIPE NOT TO BE REDUCED AFTER LEAVING MUFFLER
MAX. WEIGHT ON ANY TIRE: CURRENT STDS. OF TIRE AND RIM ASSOC. PLUS 10%
DRAIN PLUG (MIN. DIA. ¼")
SAME TIRE SIZE AND PLY RATING, FRONT AND REAR
75% MAX. GROSS VEHICLE WEIGHT
35% MAX. GROSS VEHICLE WEIGHT


BODY ELEVATION
MIN. H.R. FROM CENTER OF CUSHION 7" FROM WALL
CEILING LINE AT CENTER
MIN. OPENING
FLEXIBLE DOOR EDGING
6" MAX.
72" MIN.
36"
22"
10"
6" MIN.
10" MAX. WHEELHOUSE HEIGHT
10" MIN.
6" MIN
6" MIN
12" TAIL PIPE MIN.
27" MIN.
12"-16"
35" MAX.
BODY LENGTH, C/WL TO REAR OF BODY AT FLOOR LEVEL
MAXIMUM OVER-ALL LENGTH 35'
Prepared especially for this publication by School Bus Manufacturers Institute